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ABSTRACT

Guidelines for improving teaching and learning for all students in the middle grades are provided in this document. Following an introduction and discussion of the significance of higher order learning for early adolescence, a set of 11 principles to improve the education of all middle-grade students is presented. Based on a review of research and restructuring efforts in the United States, each section pertaining to an individual principle describes strategies used by state and local initiatives nationwide. The principles recognize the differential rates of student development and promote higher order learning through curriculum development, teacher preparation, diverse teaching approaches, assessment, professional development, and better access to health and support services. A conclusion is that states must recognize the middle grades as a unique unit of learning and establish specific goals for learning. A list of resources is included. (Contains 24 references.) (LMI)

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PRINCIPLES TO SUPPORT

HIGHER ORDER LEARNING IN THE MIDDLE GRADES

1992

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COUNCIL OF CHIEF STATE SCHOOL OFFICERS

PRINCIPLES TO SUPPORT

HIGHER ORDER

LEARNING

IN THE

MIDDLE GRADES

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The Council of Chief State School Officers (CCSSO) is a nationwide non-profit organization of the 57 public officials who head departments of public education in the fifty states, five U.S. extra-state jurisdictions, the District of Columbia, and the Department of Defense Dependents Schools. It has functioned as an independent national council since 1927 and has maintained a Washington office since 1948. CCSSO seeks its members' consensus on major education issues and expresses their views to civic and professional organizations, to federal agencies, to Congress, and to the public. Through its structure of committees and task forces, the Council responds to a broad range of concerns about education and provides leadership on major education issues.

Because the Council represents each state's chief education administrator, it has access to the educational and governmental establishment in each state and to the national influence that accompanies this unique position. CCSSO forms coalitions with many other education organizations and is able to provide leadership for a variety of policy concerns that affect elementary and secondary education. Thus, CCSSO members are able to act cooperatively on matters vital to the education of America's young people.

The CCSSO Resource Center on Educational Equity provides services designed to achieve equity and high quality education for minorities, women and girls, and for the disabled, limited English proficient, and low-income students. The Center is responsible for managing and staffing a variety of CCSSO leadership initiatives to assure education success for all children and youth, especially those placed at risk of school failure.

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Many people contributed directly to the success of the Council of Chief State School Officers Middle Grade Critical Thinking Project. The project was coordinated by Project Associate Leslie A. Talbot under the direction of Cynthia G. Brown, Director of the Resource Center on Educational Equity. Gordon M. Ambach, Executive Director of the Council, guided the development of several Council initiatives and publications that led to the creation of this document.

CCSSO staff Cynthia G. Brown, Christopher Harris, Julia Lara, Glenda Partee, Darlene Saunders, Leslie A. Talbot, Burton Taylor and Karen VanLandeghem conducted state and local education agency and school site visits for the project. The data they collected provided the foundation for the information and analyses found in this report.

Leslie A. Talbot, Project Associate at the Resource Center on Educational Equity, is the author of this report. It expands on the CCSSO policy statement *Restructuring Learning for All Students* (CCSSO, 1990c), which was unanimously adopted by Council members and originally drafted by Council staff member Christopher Harris. Reaksia Banks, Secretary for the Resource Center on Educational Equity, assisted in preparing the manuscript for publication. Paula Delo, Director of Public Information, produced the publication.

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PREFACE

To think is to live.
(Cicero)

For the past five years, the Council of Chief State School Officers has made improving educational success for all students its highest priority. Central to this effort has been a special focus on young people placed at risk of not completing high school. In support of its priority goal, the Council has developed, adopted and published policy statements and undertaken related program initiatives to assist chief state school officers and their state education agency staffs in implementing them.

In 1987, CCSSO unanimously adopted a statement and set of principles, *Assuring School Success for Students At Risk*, which called for high school graduation for virtually all students by the year 2000. Subsequent Council policy statements, also adopted unanimously, have addressed specific aspects of the complex enterprise of schooling with specific recommendations for change: *Early Childhood and Family Education* (1988), *Restructuring Schools* (1989) and *Restructuring Learning for All Students* (1990c). The Council also reviewed a variety of proposals and practices aimed at restructuring schools, as well as research in the cognitive sciences regarding thinking and learning. Discussions of Council findings and analyses are reported in *Success for All in a New Century* (1990d) and *Higher Order Learning for All* (1990b).

In 1989, the Council initiated special attention to the early adolescent learner, recognizing the middle grade years as critical in determining future achievement, retention, matriculation and educational success of students. Under The Edna McConnell Clark Foundation's Program for Disadvantaged Youth, the Council received support to review current research in middle grade school education and to ascertain state initiatives to promote higher order learning in grades six, seven and eight. The Council designed a survey to collect information about the progress of state efforts to encourage the teaching of higher order thinking and to assess the future needs of the states in accomplishing this goal. It asked specific questions about middle grade education. The results are reported in the Council's 1990 report, *Higher Order Learning for All*.

The Council is continuing its focus on the early adolescent learner as it assists the Carnegie Corporation of New York in the implementation of its Middle Grade School State Policy Initiative—the Corporation's major effort to stimulate the reform of American middle grade schools in accordance with recommendations set forth in *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Council on Adolescent Development, 1989).

As a result of its previous work, the Council has prepared this modification and expansion of the CCSSO policy statement on the improved teaching of thinking, *Restructuring Learning for All Students* (1990c), to guide state and local efforts to promote higher order learning specifically in the middle grades.

INTRODUCTION

Adolescence is, first of all, a matter of biology—an intrinsic development process in a physiologic sense. It is also a matter of psychology insofar as it involves the resolution of internal issues around self and others. Finally, it is a matter of social experience, or rather social context and cultural definition.

(John Demos, in Scanlon, 1980)

Since the early part of this century, research has identified the period of early adolescence as one of unique physiological, psychological and cognitive development. In major reform efforts during the past 20 years, many schools serving 10 to fifteen year-olds have restructured to more effectively support the needs of middle grade students. Much of the change has been concentrated in the areas of school structure and organization, as well as the social and psychological needs of students. These efforts follow the student-centered philosophy of the restructured middle grade school, which calls for student assignment in small communities for learning, instruction from a common team of teachers, and student participation in a variety of exploratory, co-curricular and extra-curricular courses.

School support for early adolescents calls for sensitivity to their social and psychological needs, *and* academic programming that is supportive of their particular cognitive development. The middle grade years (generally students age 10 through 15, in grades six through nine) are a critical period of growth during which most youngsters establish their feelings of self-worth, build self-confidence and establish behavior patterns.

Educators must consider those factors that contribute to the maturation and development of the *whole* early adolescent student when implementing strategies to restructure middle grade school education. Middle grade schools, previously asked to meet the affective developmental needs of early adolescents, must now equally support higher order learning that includes improved curricula, appropriate instructional methodologies and authentic assessments.

Making it through seventh grade is like climbing a mountain without a rope. It seems like we'll never make it to the top . . . . Everyone is looking down on us and throwing down boulders for us to catch while there's many other responsibilities to take care of.
(Natalie Bus,
Seventh Grade Student,
Batavia Junior High School,
1990)

DEFINITION AND SIGNIFICANCE OF HIGHER ORDER LEARNING FOR EARLY ADOLESCENTS

Every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

(U.S. DEPARTMENT OF EDUCATION, 1991, P. 3)

The Council's work on restructuring learning uncovered an extensive collection of research and literature in the cognitive sciences. CCSSO found no single, universally accepted definition of higher order learning; but researchers agree on certain key characteristics. Higher order thinking is complex, yields multiple solutions, requires interpretation and the use of multiple criteria, involves uncertainty and finding structure in apparent disorder, demands self-regulation of thinking processes and requires considerable mental effort (CCSSO, 1990b).

Research is inconclusive regarding the time period during which youngsters experience the cognitive transformation that enables them to reason abstractly, but many cognitive scientists identify adolescence as the turning point for intellectual development.

During adolescence, youngsters spend much of their time learning about and defining who they are. They explore and test their physical and intellectual abilities. This period of introspection and exploration is key to cultivating early adolescent proficiency to consider contrary and contrasting ideas, formulate hypotheses and draw conclusions from data and observations. Consequently, achievement of educational success for early adolescents requires that middle grade schools acknowledge the unique cognitive development of these students and the variety of their learning styles, and support higher order learning through appropriate curriculums and instructional methodologies.

This statement provides education policymakers and practitioners with a set of 11 principles to improve the education of middle grade school students. These principles are based on a review of research in cognitive sciences regarding thinking and learning, as well as an examination of efforts around the United States to restructure middle grade school education. Each of the following principles includes strategies the Council found during an investigation of state and local initiatives to support higher order learning in the middle grades. These principles are presented to guide the restructuring of learning for all early adolescents.

Ensure That All Students Participate in an Educational Program That Supports Higher Order Learning.

Every middle grade student should develop the capacities for critical thought and effective communication.

(California State Department of Education, 1987)

It is imperative that all early adolescents, especially those placed at risk, are provided the opportunity and the necessary educational and social support to fully develop their thinking and reasoning abilities for success in school and as adults. All early adolescents should have access to a quality middle grade education. The entire school must be dedicated to this objective. School support of higher order learning should emphasize accelerated programming, not remediation. It should require high expectations for academic success for all students and provide support for those students with special needs who may not meet educational outcomes on time.

Equally important is the commitment by state and local education agencies to provide disadvantaged early adolescents with an education program that integrates thinking and reasoning throughout the curriculum, regardless of where instruction occurs (e.g., in a "regular" academic classroom, in an exploratory or co-curricular activity, or where the education program is specially designed for students with extra classroom needs).

South Carolina's Initiative to Ensure Higher Order Learning for All Students

In an effort to ensure that all students receive an education program that supports higher order learning, the state of South Carolina enacted Target 2000: School Reform for the Next Decade Act, effective July 15, 1989. The legislation requires the State Department of Education and all school districts to support higher order learning through curriculum and instructional practices. The state department maintains responsibility for this effort and must assist local districts by locating, developing and advising them on the development of materials and other aids that may be used to teach higher order problem solving within existing content areas.

The state board of education appointed a committee to determine the dimensions or definition of higher order thinking as appropriate for South Carolina. The Higher Order Thinking Skills Committee recommended the following set of underlying assumptions to support the state's effort:

- All students can learn to be better thinkers.
- Higher order thinking can be taught at all grade levels, with consideration of developmental differences.
- Higher order thinking is an integral part of all subject areas.

The committee defined higher order thinking as "the ability and willingness to manage the mental processes necessary to reach decisions, make judgments, solve problems, and construct and communicate meaning."

Although higher order thinking involves many processes, it is more than the sum of its parts. It includes questioning, interpreting, analyzing, synthesizing, organizing and integrating information, generalizing and inferring, estimating and predicting outcomes, creating and evaluating. Educational support of higher order learning, therefore, enables students to select, combine and draw on these processes at the appropriate time.

The Higher Order Thinking Skills Committee stated that it is imperative for students themselves to believe they can think well. The committee maintained that students must learn to monitor and regulate their own thinking and understand how thinking skills and processes relate to different categories of content and situations.

The committee determined that higher order thinking consists of the following five dimensions:

- Skills, strategies and processes.
- Selection, organization and use of the skills, strategies and processes.
- Application within and across subject areas and real-world tasks.
- An inquisitive and positive "can-do" attitude.
- Managing and regulating one's own thinking processes.

The committee suggested that the definition and dimensions of higher order thinking be considered "fluid and changing and not static."

The Higher Order Thinking Skills Committee also recommended that the State Department of Education expand its past efforts to make available professional development opportunities in support of higher order learning. To accomplish this, the state department endorsed two higher order thinking models that had proven to be successful for statewide replication. These are the *TACTICS for Thinking* program by the Association for Supervision and Curriculum Development (ASCD) and the Higher Order Thinking Skills (HOTS) program from the University of Arizona. To promote statewide implementation of these two models, the state department trained district-level officials, who then train teachers in their respective districts.

The ASCD *TACTICS for Thinking* program provides classroom teachers with specific strategies to integrate higher order thinking, creative thinking and problem-solving skills into all areas of the curriculum at all grade levels. As of April 1990, 75 of the 91 school districts in South Carolina had made commitments to implement the *TACTICS* model for grades K-12 (CCSSO, 1990a).

The HOTS model is used by fourth and fifth grade teachers of Chapter 1 students. HOTS combines computer-assisted instruction with reciprocal teaching, using a questioning technique similar to the Socratic method. This approach has proven to be very effective at building associations between general concepts and specific skills taught in the content areas (CCSSO, 1990a).

School should be a place where close, trusting relationships with adults and peers create a climate for personal growth and intellectual development.

(Carnegie Council on Adolescent Development, 1989)

Ensure That Middle Grade Classrooms Are Environments That Support Higher Order Learning.

Five common traits among early adolescents:

- *High levels of emotional and physical energy combined with long periods of "hanging out" and doing nothing productive by adult standards.*
- *Indulging in risk taking behavior, yet having feelings easily hurt.*
- *A desire to be more independent from families, while harboring a need to be nurtured and protected.*
- *Being self-absorbed and craving privacy, together with great concern about being accepted by peer groups.*
- *Demanding privileges yet avoiding responsibility, while developing a deep concern about social issues and others.*

The middle grade classroom must be a nurturing environment that supports in many ways both the physical and intellectual developmental needs of early adolescents. Similarly, middle grade classroom content, instruction and activities should galvanize the social nature of early adolescents and direct their energies into thoughtful, constructive learning opportunities. Berla, Henderson and Kerewsky (1989) identify five common traits among early adolescents.

The future academic achievement of most early adolescents is largely attributable to their ability to develop a positive sense of self-worth, gain an understanding of self and strive for and determine a place for themselves in society. Middle grade schoolteachers must recognize and be able to help students understand and cope with symptoms associated with rapid physical growth. Helpful hints concerning personal hygiene and answers to questions regarding sexuality should not be considered the exclusive purview of the school's health instructor.

All middle grade school staff members should acknowledge youngsters' incessant desire to discover and know themselves. Positive reinforcement of students' strengths, abilities and interests should be a regular occurrence during every class period.

In schools that provide high support:

- The structure is organized to provide students with high levels of academic and personal support;
- Each student has a sustained personal relationship with one or more members of the school staff;
- Students are actively encouraged and helped to interact with community-based social and health agencies;
- There are structured opportunities for students to develop problem-solving and decision-making skills related to issues of adolescent development;
- Families are actively involved in their children's educational development; and
- Students are assisted in understanding the middle grades curricula, their relationship to the high school curricula, and the implications of curricula choices (The Edna McConnell Clark Foundation, 1990, p. 56).

Communities for Learning and a California Example: South Gate Junior High School

The restructured middle grade school is organized into small communities for learning accommodating as few students as possible per classroom. This usually involves teacher and student assignments into houses and teams within the school. For example, a middle grade school "house," commonly known as a school-within-a-school, may be organized in one of two ways: it may contain several classes of one grade level, or it may contain a subset of each of three grades, six, seven and eight.

Middle grade houses generally are located in separate areas of the school. Each house has a set of core academic teachers who share the same set of students. Depending on the organizational structure of the school, teachers may work with the same students throughout a given year or for their entire middle grade tenure. In this way, teachers become very knowledgeable about their students' abilities, ensuring immediate, appropriate and reinforced remediation across the disciplines.

The team-teaching approach requires significant time for periods of common planning among participating staff. Planning is required to determine and build flexible scheduling, accommodate curriculum development and in-service and facilitate the creation of interdisciplinary learning units. Interdisciplinary instruction is probably the most effective strategy for building congruence in the content areas and promoting faculty interaction. It also expands students' background knowledge as it reinforces content across the curriculum, providing relevant applications for what is learned. Research indicates that deeper background knowledge leads to better acquisition of higher order functions.

Reduction in class size is central to the

concept of a supportive community for learning. However, this is not usually an option for large, urban schools. For example, South Gate Junior High School in South Gate (Southeast Los Angeles) is an enormous middle grade school located in a predominantly Latino, working-class community. Most South Gate students are first-generation immigrants, with a significant number having recently arrived in the United States. Ninety percent of the student population is language minority and over 60 percent of these students have limited English proficiency. South Gate also is located in an area commonly referred to as "gang territory." However, the campus environment is safe, clean and beautiful.

As part of the Los Angeles Unified School District, South Gate operates year round on three sets of alternating nine-week sessions, each with a different instructional theme. The school serves 3,331 students in grades six, seven and eight at any one time and has a total student enrollment of 4,000. South Gate's teaching faculty numbers 205. Class size on average is 30. The school is housed in a large, two-story building with three wings. Several smaller buildings and portable units provide additional classroom space. Not only is the student population large, but it is spread among various locations within the city-block campus. Therefore, South Gate has an enormous task of organizing the school into a supportive community for learning.

The building facilities at South Gate would seem not to accommodate the middle grade teaming, or school-within-a-school, concept. However, South Gate has organized teams of teachers for each grade level; these teams share students and teach in the primary academic content areas. Each team has four teachers, who provide core academic instruction for students during 57-minute classroom periods. Academic instruction is organized in an alternating block-schedule format during six class periods per day. South Gate students receive additional instruction in non-core academic subjects five days per week. These classes include computer programming, wood shop, metal shop, music, art, physical education, drama, folklorica, drill team, band and orchestra.

Because the year-round policy permits one of the four sessions to be "off-schedule," South Gate can call on its own faculty for substitute teaching. This further strengthens the small-community model in that students seldom, if at all, receive instruction from a "stranger" or someone unfamiliar with the school environment and student population. In addition, because South Gate employs its own faculty as substitutes, core academic teachers have more time to participate in common planning periods.

Each student has a unique combination of abilities and talents, learning rates and styles, hopes and dreams, and problems and fears . . . [The early adolescent needs] to be recognized for individuality, originality, and accomplishment.
(Maryland Task Force on the Middle Learning Years, 1989, p. 45).

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Some early adolescent students . . . . need extra time for learning, more personalized and individualized instruction, and, above all, constant encouragement for effort and appropriate praise for achievement.

(Maryland Task Force, 1989, p. 51)

Acknowledge Different Rates of Development and Styles of Learning Characteristic of Middle Grade Students.

During the middle grade years, early adolescents experience a spurt of cognitive growth. However, not every middle grade learner enters grade six with equal literacies. Schools must provide intense supplementary resources for those middle grade students who do not meet high standards and achievement outcomes by the expected times.

For early adolescents, this accommodation is best accomplished when the school environment and educational program capitalize on the unique characteristics of these students, provide a curriculum that is both real and immediate to students of this age group and use relevant and diverse instructional approaches.

Middle Grade Initiative for Disadvantaged Students in Wisconsin

The "Caring, Daring and Sharing" initiative began in 1989 with support from The Edna McConnell Clark Foundation. It targets disadvantaged students in two Milwaukee middle schools. The program is designed to incorporate into the school curriculum accelerated learning methods, cooperative learning instructional methodologies reflective of differences in student learning styles, and an emphasis on critical and creative thinking. Program strategies are used primarily in language arts and history/social studies, although there is some carryover into other content areas.

The early adolescent needs physical movement, yet many middle grade schools operate as if learning can only occur when the student is seated for extended periods of time at his or her desk.

(Lounsbury, 1991)

Parkman Middle School is a medium-sized middle school located in a predominantly African-American, working-class community. The school staff and students face many of the challenges researchers and educators have come to associate with urban education—students from low-income and single-parent families, large class sizes and large enrollment in special education.

Reform efforts at Parkman Middle School primarily have emphasized changes in programming to reflect early adolescent and diverse learning rates and styles, increased parent involvement and the provision of accelerated/enrichment summer field trips. Efforts to enrich the curriculum include the addition of the Lions-Quest Skills for Adolescence (SFA) to the existing social studies program. In the Quest classroom, students decide the rules for behavior in class, and they determine and help enforce consequences if the rules are not adhered to. SFA program goals and objectives include seven distinct units of learning:

- Entering the Teen Years: The Challenge Ahead
- Building Self-Confidence Through Better Communication
- Learning About Emotions: Developing Competence in Self-assessment and Self-discipline
- Friends: Improving Peer Relationships
- Strengthening Family Relationships
- Developing Critical Thinking Skills for Decision Making
- Setting Goals for Healthy Living

Each unit contains a wide variety of classroom activities that include reading, writing, discussions, guided practice in skills development and group projects.

Consistent with the co-curricular component of the middle grade concept, twenty-five to thirty Parkman students from each grade level are selected at random to participate in a two-week leadership training camp each summer on the University of Wisconsin campus at Madison. Students receive instruction in leadership principles and learn skills in peer mediation, decision making and computer literacy. This activity has proven to raise student morale and self-esteem while providing exposure to postsecondary environments.

To support changes in curriculum, Parkman faculty have embarked on schoolwide staff development initiatives in cooperative

learning strategies so that instruction more effectively responds to the developmental characteristics of early adolescents. Parkman also provides support to disadvantaged learners by coordinating activities to increase parental involvement. The faculty and administration sponsor parent-information meetings regarding expectations and projections of future homework assignments in each content area. These meetings usually begin with a cooperative learning activity.

The state's involvement in this local initiative for disadvantaged middle grade students, while not extensive, is significant. It provides program support for the Caring, Daring and Sharing Program through dissemination of various publications. These include:

- *The Middle Grades: Where We Are; Where We Need To Be* (Wisconsin Department of Public Instruction, 1990) which analyzes data obtained from various middle grade schools across the state about different aspects of the middle grade educational program, and provides guidelines for improvements based on recommendations set forth in *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Council, 1989).
- *Promising Practices and Programs for the Middle Level Grades* (Wisconsin Department of Public Instruction, 1991) is a synthesis of data collected from every middle grade school in the state, identifying programs or innovations proven to be effective in helping to increase student achievement.

The state also provides particular services to support improved teaching and learning for disadvantaged middle grade students. These include:

- Center of Education for the Young Adolescent (CEYA), which provides programs and resources for educators and others serving early adolescents. The DPI helps finance CEYA.
- Consultation services and inservice training, which follow a particular publication or address an issue pertinent to middle grade school reform.
- Waivers that allow for increased flexibility in instructional time per content area and in middle grade teacher recertification criteria.

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Every middle grade student should develop a repertoire of learning strategies and study skills which emphasizes reflective thought and systematic progression toward the goal of independent learning.

California State Department of Education, 1987, p. 24)

Emphasize the Teaching of Thinking Skills to All Students Across All Grade Levels, Especially in the Middle Grades.

The middle grade years are pivotal in determining students' educational outcomes. Cognition during adolescence usually undergoes a shift from concrete to formal operations. Students consider ideas of greater complexity, reason with multiple variables, and appreciate a more sophisticated level of subtlety in mathematics, literature and politics. It is the healthy marriage of these two, the cognitive and the affective domains, that is crucial to adolescent development.

Instruction in the middle grades should emphasize thinking and reasoning. Teachers need to recognize that the acquisition of "basic skills" is not a prerequisite to higher order learning. Schools must strengthen and enhance early adolescents' capacity for intellectual development to improve the odds of long-term school achievement and educational success for these students (CCSSO, 1990b).

In addition, an instructional program that supports higher order learning is void of tracked classes. Though some ability-grouping practices adopted for instructional purposes yield positive results, research indicates that tracking:

- Does not result in better instruction for students with extra educational needs;
- Increases instructional time in basic concepts, yet has not proven to be effective in strengthening student acquisition of basic skills; and
- Fails to support higher order learning.

Instead, the practice of tracking lowers staff and student expectations and limits future levels of academic attainment. There are particularly detrimental consequences for students at the middle grade level. Performance in sixth, seventh and eighth grades is critical in determining the high school courses students are eligible to take; likewise, the quality and level of secondary education is directly related to postsecondary education and employment options.

Middle grade schools should use instructional approaches that encourage higher order thinking for all students, regardless of ability. Whenever possible, middle grade schools should adopt heterogeneous grouping practices. Whereas a core academic curriculum is key to ensuring that all students receive an education program that promotes higher order thinking, appropriate instructional methodologies are just as significant. Middle grade schools should support students' cognitive development by providing opportunities to recognize and integrate intuitive knowledge, increase subject-matter knowledge, and learn to integrate both to solve problems and make decisions.

Research indicates that peer interaction, stimulated by cooperative learning groups, increases students' ability to integrate intuitive and formal knowledge. Often proposed as an alternative to ability grouping, cooperative learning methods involve students working in small, heterogeneous learning groups (Slavin, 1991). Two key elements must be present for cooperative learning strategies to be effective. There must be group goals and individual accountability (Slavin, 1990). Studies over the past decade document that cooperative learning methods result in significantly higher achievement when compared with traditional or expository lecture instruction. These results have been found among low- and high-achieving students, boys and girls, and all racial and ethnic backgrounds. Cooperative learning strategies promote higher achievement at all grade levels, in all subject areas, in verbal problem solving, spatial problem-solving, retention and memory and motor performance (Johnson, Maruyama, Johnson, Nelson and Skon, 1981).

Restructured Learning in the Middle Grades: A State and Local Imperative in Maryland

In October 1984, the Maryland State Department of Education sponsored a statewide Thinking Skills Awareness Conference in response to a growing concern among state and local education officials about the need for curriculum and instructional methodologies that encourage higher order thinking. This

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conference, the first of seven conferences over five years, initiated the Maryland Thinking Improvement Program.

The Maryland Thinking Improvement Program was a five-phase initiative begun in 1984 with the Thinking Skills Awareness Conference and terminated in 1990 with statewide implementation. Specifically, the five phases were awareness/knowledge building, program planning, program development, synthesis/dissemination and statewide implementation. Conferences over the five years were designed to raise awareness among educators to stimulate the development of thinking skills initiatives in local school systems by providing current information regarding issues, approaches and programs. Based on the belief that "thinking" is relevant to, and can be developed within, every academic discipline, the conferences involved educators from all subject areas, representing pre-K through the university level.

Program planning occurred almost simultaneously with awareness and knowledge building, and involved a two-tier incentive grants program. The first tier, Thinking Improvement Planning Grants, provided funds to support local exploration and development of goals and implementation strategies for pilot projects over an eight-month period. Nineteen of Maryland's 24 school districts applied, and all received planning grants.

Subsequently, these 19 districts were encouraged to participate in the second tier. As of November 1991, 17 of Maryland's 24 school districts have received Thinking Improvement Implementation Grants. A team of teachers at Patapsco Middle School in Howard County used its implementation grant to develop an interdisciplinary educational program. This program incorporated principles of the "inclusion process" model developed by the Maryland Center for Thinking Studies, K-12. The model consists of an eight-step process that can be applied at any grade level and in all content areas:

1. Analyze the curriculum objectives to determine the categories and levels of thinking required for mastery.
2. Assess the learners' cognitive needs with regard to the curriculum objectives.
3. Develop a list of thinking skills to be taught or select skills from an existing list or lists.
4. Develop a long range plan for the sequencing of thinking skills instruction.
5. Define each skill.
6. List the steps involved in applying each skill.
7. Apply the skills to the curriculum.
8. Test for skill mastery.

Phase four of the Maryland Thinking Improvement Program involved synthesis and dissemination of research and evaluation of the seventeen pilot projects. Additional resources were provided to the pilot sites to participate in a state-sponsored Training of Trainers Institute. Participants included local education agency officials responsible for staff development and teacher educators from state colleges and universities. As a result, sixteen state-approved workshops and courses in thinking skills are now being offered for credit by Maryland local education agencies and institutions of higher education.

The last phase of the Maryland Thinking Improvement Program was the statewide implementation of curriculum development and instructional practices that encourage higher order thinking. This involved development of a thinking skills instructional framework, formation of a statewide network and a system for staff development support.

Incorporate the Teaching of Thinking Skills in All Parts of the Curriculum.

Prudent educational practice should seek to embed efforts to teach cognitive skills into one or another—preferably all—of the traditional school disciplines . . . . regardless of what may be done in the way of special courses in thinking or learning skills . . . .

(Lauren Resnick, 1987, p. 38)

The middle grade school curriculum should support higher order learning for *all* early adolescents and provide subject matter that is interrelated and interdisciplinary. In addition, the curriculum should provide students with frequent opportunities to express themselves, introduce new background subject matter and exploit their newly accelerated processes of thought.

The middle grade school curriculum must be supported by stimulating instructional methodologies, including those that support students from disadvantaged backgrounds. Most important, this thinking curriculum should be reinforced with relevant classwork, homework and assessment practices.

Research indicates that the effective middle grade school curriculum is composed of two main parts: the core academic program, which supports cognitive development, and additional courses that encourage students to pursue individual interests and explore other avenues of learning.

The core academic program must be accessible to all middle grade students irrespective of their primary language, socioeconomic status or ethnic background. It should embody the elements of higher order learning through discipline-based instruction and should encourage study of the following:

- Language arts and literature, including reading comprehension, metacognition, persuasive writing and reasoning
- Mathematics and science
- History/social studies and geography
- Visual and performing arts
- Physical education, including health

The middle grade school curriculum also must support the development of each student's affective domain. It should provide opportunities for students to learn a hobby, expand their educational interests and participate in opportunities to create or serve. These opportunities can be provided through a combination of exploratory or elective curricula and extracurricular, co-curricular and intramural activities. Examples of these course offerings might include:

- Foreign language
- Special interest classes (e.g., photography or cultural dance)
- Community service projects
- Intramural athletics
- Academic competitions (e.g., debate or spelling bees)

The California Curriculum Frameworks: From State Policy to Local Practice

While we do not have special projects to teach critical thinking, we do feel that it has to be infused systematically, i.e. through curriculum, assessment, and staff development.

(Jim Smith, former Deputy Superintendent, California State Department of Education)

The California State Department of Education, in an effort to establish a more uniform system of education for all K-12 students, developed a series of curriculum frameworks in history/social science, language arts, mathematics and science. The California curriculum frameworks call for a new approach to teaching and learning. They emphasize higher order literacies and encourage teachers to actively engage students in learning. The California model proposes that this can be accomplished through a common, high-content curriculum.

Furthermore, and as part of the state's focus on the early adolescent learner, the state also created a set of quality criteria for middle grades. These frameworks and quality criteria are part of an education policy model that includes implementation strategies designed to effect widespread improvements in teaching and learning across the curriculum and grade levels.

The California curriculum model consists of the following components:

- **A Clear Vision for Curricular Reform.** For example, the history/social science framework establishes a common curriculum in history and the social sciences for all children in the state; serves as a guide so that all students in the state will receive an educational experience of comparable quality; ensures that students who move from one school to another within the state will not repeat the work of previous years; creates a sequence of history and social studies from kindergarten to grade 12. In addition, the framework is used by teachers and administrators to help them plan and coordinate instruction; and it informs textbook publishers about the kinds of textbooks needed in schools. The framework also provides suggestions on how to teach the curriculum (California State Department of Education, 1990a).
- **Technical Assistance to Local Education Agencies and Schools** in the form of time, personnel, materials and money. To support the principles and promote widespread change in curriculum, the state department of education established subject area projects for teachers. The subject area projects include the California Math Project, California History Project, and California Literature Project. They are housed and administered on state university campuses, and provide intensive staff development in current research and pedagogy for a particular content area (CCSSO, 1990a).
- **Accountability for Results**, but flexibility in how they are produced. For example, the curriculum frameworks establish a common core of content information. The frameworks do not require content to be presented in a precise sequence within a designated period of time or through a particular instructional approach.
- **Standards for Each Subject Area** for grades nine through 12. Local education agencies are required by law to compare their curriculum with the standards every three years. There are also curriculum guides for kindergarten through grade eight for each academic discipline. Local districts are encouraged to compare their curricula to these.

In response to the state's curriculum policy initiative, San Diego City Schools developed an age-appropriate course of study in K-12 for each of the content areas. The course of study provides school administrators, teachers and parents with information about the district's curricula and instructional programs. What is unique about San Diego's course of study is that (1) it determines student outcomes for each content area that parallel those identified in the district's Thinking Skills Framework; and (2) it identifies specific subject areas and courses for grades seven and eight. The San Diego City Schools course of study is revised annually.

[Teaching higher order skills within the disciplines] provides a natural knowledge base and environment in which to practice and develop higher order skills . . . . [It also] provides criteria for what constitutes good thinking and reasoning within the disciplinary tradition . . . . [Because] each discipline [requires] a characteristic way of reasoning . . . . Finally, teaching higher order skills within the disciplines will ensure that something worthwhile will have been learned even if wide transfer is unattainable.

(Lauren Resnick, 1987, p. 18)

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MAKE CERTAIN THAT THE TEACHING OF THINKING AND OTHER HIGHER ORDER SKILLS ARE PART OF DIRECT PREPARATION FOR WORK.

Our goal is to produce young adults with high levels of academic achievement and broad competencies who are equipped to pursue successfully upon graduation a range of continuing education, training and occupational options. To ensure that all youth are positioned for these options will require extensive changes in secondary education, how we structure and organize our curriculums, times and places of instruction, and how we use our resources.

(CCSSO STATEMENT OF PRIORITY, 1991; *CONNECTING SCHOOL AND EMPLOYMENT FOR ALL STUDENTS*, 1991b)

Developing higher order competencies is useful for both immediate and future situations. In early adolescence, students' academic achievements and decisions significantly determine their future schooling and vocational experiences. The middle grades should be a time of experiential learning and career exploration. It should be a time for discovering the relationship between classroom knowledge and its application to real-world activities, and for laying a strong foundation of work-readiness competencies suitable for a range of postsecondary academic and occupational options. These objectives can be accomplished through a host of co-curricular programs that allow students to pursue or study more intensively subject areas, hobbies and leadership or life skills that are of particular interest to them. No matter what the course offerings, middle grade schools must expect all early adolescents to develop problem-solving, decision-making and critical and creative thinking skills that will prepare them for lifelong learning, work and citizenship.

All early adolescents should enter high school with an understanding of how different curricula can affect their career and/or postsecondary education options, and they should select programs of study that enable them to pursue their choices.

(THE EDNA MCCONNELL CLARK FOUNDATION, 1988)

Effective educational preparation for work involves an integration of academic content areas with vocational literacies. An integrated middle grade curriculum provides students with a knowledge base and cognitive skills that can be applied to life and employment-related situations. In addition, the integrated curricula must provide early adolescents with an understanding of the academic prerequisites needed for specific postsecondary education and employment options.

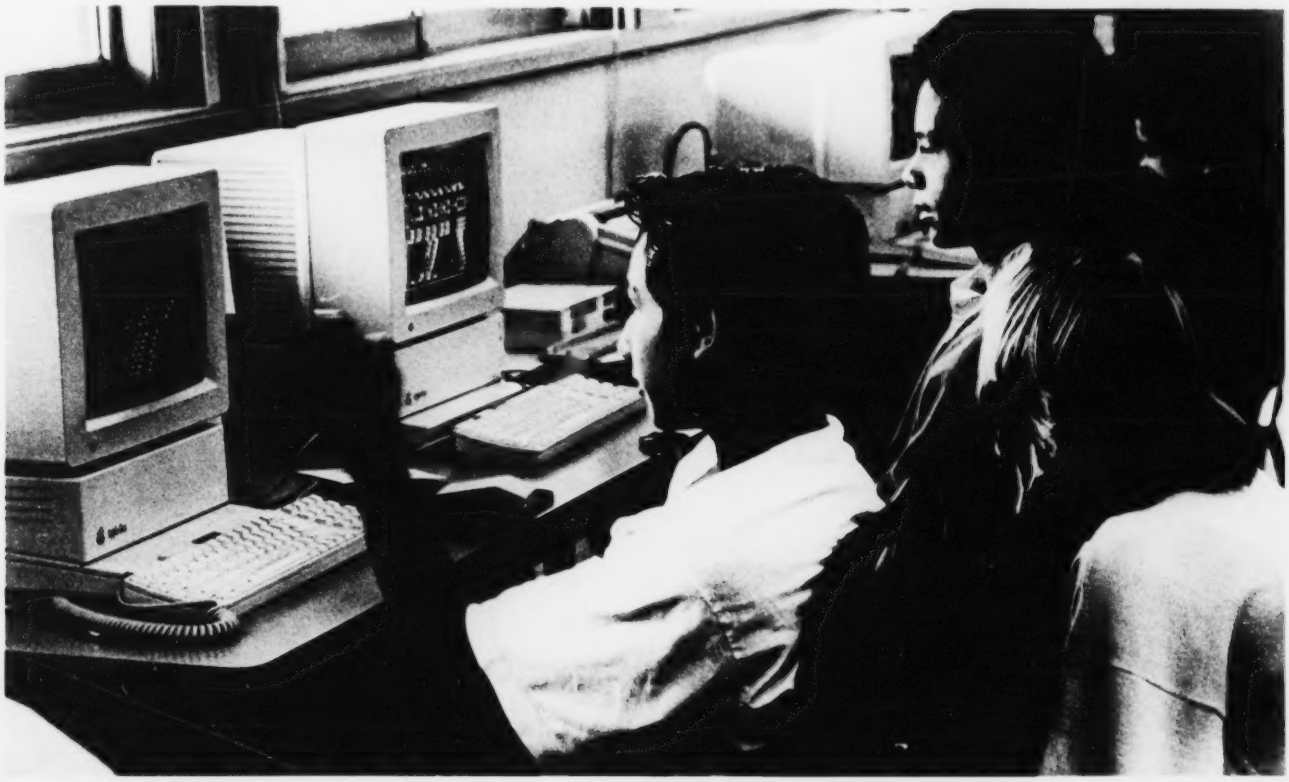
EXPLORING LIFE'S WORK AT THE MIDDLE GRADE LEVEL: WISCONSIN'S EDUCATION FOR EMPLOYMENT

Wisconsin's Education for Employment Plans and Program Requirements states, "Every [local school] board shall provide access to an education for employment program approved by the state superintendent to prepare elementary and secondary pupils for employment, to promote cooperation between business and industry and public schools and to establish a role for public schools in the economic development of Wisconsin" (Wisconsin Statute 121.02, Chapter PI 26.01). These programs began during the school year 1991-92.

All teachers can help students achieve the goal of preparation for work by teaching them to . . . . recognize that education and learning are lifelong endeavors, [and helping them to] identify and develop cognitive and affective skills related to work . . . .

(PRESTON SMELTZER, 1991)

Under these requirements, local school districts must appoint an education for employment council to ensure that every school provides a program based on "pupil needs and interests, equality of educational opportunity, labor market information, impact on economic development and job creation, employment needs, periodic follow-up studies of graduates, and an evaluation of current programs and staff development needs." The program components must include instruction in practical application of basic skills; school-supervised work experience; career exploration and planning; instruction in employability skills and



attitudes; and an understanding of the practical application of economics, including entrepreneurship.

However, the Education for Employment Plans and Program requirements did not include specific criteria for the middle grades. As part of an ongoing effort to reform middle grade education across the state, the Wisconsin Department of Public Instruction published a set of career/vocational competencies for early adolescents. These competencies serve as minimum expectations for the total middle-level education program, as well as guidelines for curriculum and staff development.

The department developed *A Guide to Middle School Curriculum Planning in Exploring Life's Work* (Smeltzer, 1991). The guide suggests that teachers use a new approach to curriculum and instruction—drawing on the content areas to stimulate student practice of higher order thinking and to support learning about life's work. The guide identifies four features of effective middle grade curriculum and instruction:

- The curriculum is exploratory in nature and spirit;
- Instruction emphasizes concept learning, using both concrete application and abstract reasoning activities;
- The instructional methods include cooperative group learning; and
- Curriculum and instruction respond to the learning characteristics of early adolescents.

Exploring Life's Work also provides strategies for implementing its approach. School staff are encouraged to develop a goals-centered curriculum, promote ownership and wide participation in curriculum development, and select and test changes in content and delivery. *Exploring Life's Work* also supplies middle grade educators with sample learning activities. These activities emphasize socialization, management, interdependence and technology, motivation, cooperation and communication.

The Wisconsin Department of Public Instruction disseminated *Exploring Life's Work* during the autumn of 1991 and sponsored follow-up inservice sessions at each of the state's 12 Cooperative Education Service Agencies.

[We are providing] a new view of what it means to explore—reconceptualized for the 1990's. [Exploration] is the major feature that distinguishes middle school from junior high school.
(Preston Smeltzer)

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Acknowledge and Support a Diversity of Instructional Approaches to Support Higher Order Learning.

Successful [educational] programs match effective instructional techniques with young adolescents' developmental needs.

(Davidson, 1989)

Middle grade students at times have relatively short attention spans and, in other instances, can concentrate on a single subject for hours at a time. Early adolescents are often full of energy and are eager to learn. Then there are periods when they appear lethargic and uninterested in their studies. Early adolescents, with their seemingly dual personalities, are a challenge to teach.

These young people are extremely social beings. Effective instructional methodologies for middle grade students build on an interdisciplinary scheme involving thematic approaches to the core curriculum, experiential and hands-on learning activities, technological resources, service learning, mentor programs and academic and career advising.

Middle grade schoolteachers must be adept at various instructional approaches known to be particularly effective with early adolescents including those that encourage debate and disagreement through discussion, those that enable students to learn from each other and those that involve youngsters in their own educational processes. In pedagogical terms, these instructional methods are referred to as *reciprocal teaching* and *cooperative learning*. Research indicates that cooperative learning strategies are extremely effective with early adolescents. Cooperative learning groups should be composed of students with varying abilities. Empirical evidence has shown, first, that heterogeneous grouping practices support higher order learning for all students. Second, each member of the cooperative learning group should acquire a specific role and adhere to universal rules and guidelines. Third, the cooperative learning group must require individual responsibility. Last, cooperative learning should supplement, never supplant teacher instruction.

The New York State Board of Regents (1989) has stated:

Successful middle-level teachers:

- Vary activities to maintain student interest.
- Use flexible grouping based upon student needs and interests to help students achieve program purposes, with students changing groups often depending upon individual needs and program objectives.
- Use a variety of teaching strategies to match instruction to the varied learning styles of individual students.
- Use cooperative learning and peer tutoring opportunities to develop social and interpersonal skills in addition to academic proficiency.

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Parkman Middle School and the Cooperative Classroom in Wisconsin

Parkman Middle School, as noted earlier, is located in Milwaukee; and it began to restructure teaching and learning with support from The Edna McConnell Clark Foundation during the 1989-90 school year. As part of its reform efforts, Parkman discontinued its tracking practices and adopted cooperative learning groups as an alternative instructional approach to stimulate higher order learning. Initial inservice training occurred when 30 Parkman teachers attended an awareness session in cooperative learning. Five Parkman faculty members subsequently attended a seminar on cooperative learning in San Francisco, California, sponsored by the Developmental Studies Center. This training was succeeded by a "Brown Book" training session led by Roger and David Johnson in cooperative learning. Seventeen teachers (approximately 35 percent of the faculty) volunteered for this additional training in cooperative learning strategies. These staff members returned to Parkman and established a comprehensive training program in cooperative learning strategies.

One faculty trainer adopted the role of cooperative learning "implementer." The implementer's responsibility is to ensure that cooperative learning strategies, once learned, are used appropriately in the classroom. The implementer engages in modeling sessions with faculty, using their own classes as training grounds. She monitors the progress of faculty trainees, providing additional support and assistance when needed. She holds monthly sessions with cooperative learning trainees to provide input in classroom management techniques and lesson plan development. She also produces a cooperative learning newsletter, which features instructional tips and anecdotal information from faculty using cooperative learning strategies.

Parkman's cooperative learning classrooms have several unique characteristics:

- Students decide on the rules and consequences of the classroom.
- Parkman faculty determine when cooperative learning is appropriate. For example, a particular lesson may be more effectively reinforced if it is succeeded by an individual activity. If not, Parkman students organize themselves into previously assigned cooperative learning groups.
- Each group is composed of students with diverse abilities and achievement levels.
- Three members of each group are assigned roles in addition to their commitment to participate in the group. These roles are delineated by buttons worn by the students and include the *checker*, who ensures that the group stays on task; the *encourager*, who gives praise to those who participate in the group's assignment; and the *recorder*, who documents the group's progress and work.
- Each group member is charged with the responsibility of ensuring that individuals are working cooperatively.
- When grading the work of students in cooperative learning groups, Parkman faculty inform students that every classroom activity is also linked to individual accountability.

Parkman faculty who use these cooperative learning methods have observed in their students better subject matter retention; higher motivation, particularly among the low-achieving students; peer mediation and tutoring; and improved discipline. They also comment that students like working together. As one Parkman teacher said, "The students no longer come to me as an authority on a particular subject. They [are beginning to] learn from each other."

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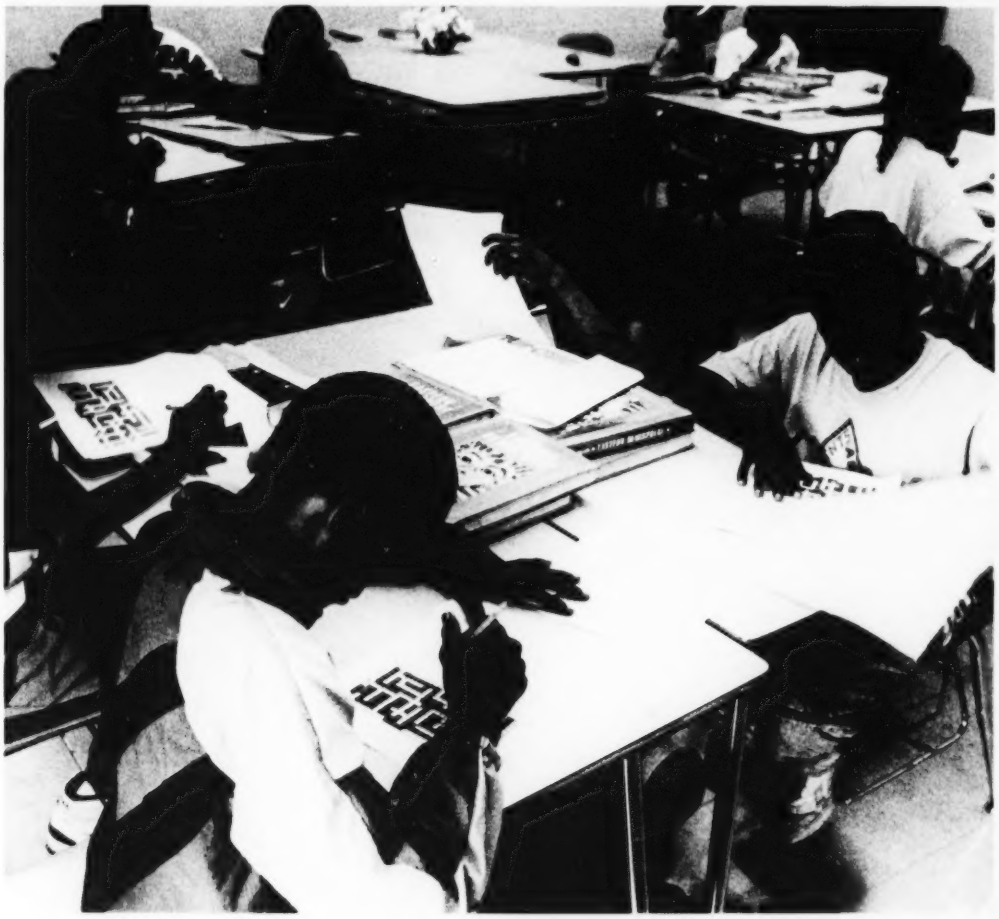
Ensure That Middle Grade Student Assessments Measure Higher Order Learning.



Reliance solely on* quantitative *measurements of learning outcomes is questionable. Standardized test scores may distort assessment of critical middle grade educational reform goals. Some researchers argue persuasively for inclusion of artistic judgments as a complement to traditional evaluation measures.

(California State Department of Education, 1987)

Middle grade school assessments should support the early adolescent learner's shift in cognitive development from singular, concrete skills to more formal, complex operations. The content and design of assessments should measure the early adolescent's ability to formulate hypotheses, make judgments and draw conclusions. Assessment content also should be linked directly to a core academic curriculum, measuring content knowledge and ability and appropriate use of higher order thinking skills.

Middle grade student assessments should be diverse in design and should reflect the developmental characteristics of early adolescents. Assessments should reinforce curriculum content. Paper-and-pencil tests should be supplemented with stimulating exercises that further enrich students' knowledge, provide opportunity to practice use of higher order thinking skills and engage students in their own learning process. In addition, the somewhat volatile nature and precarious personality of the early adolescent necessitate that these assessments provide immediate feedback. Therefore, middle grade student assessments must be diagnostic, and provide constructive comments and directions for improvement.

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Early adolescents need helpful information at frequent intervals in order to learn how to improve their work and study skills, personal habits, and social skills . . . . Evaluation practices [should provide] . . . . challenging standards, fair and clear monitoring, explicit information about progress, and explicit programs to help students to move toward higher levels of learning . . . .
(Maryland Task Force, 1989, p. 48)

Embarking on the Authentic Assessment in Vermont

Several states have adopted alternative assessments to paper-and-pencil and norm-referenced tests. These include performance-based assessments, student portfolio assessments, and increased use of writing to measure students' abilities within and outside the language arts.

Vermont has instituted a comprehensive testing system to ensure uniform assessment of higher order thinking. The system combines newer evaluative methods with more traditional strategies. It uses three methods: a uniform test, a portfolio and a "best piece." These assessments are currently administered in grades four and eight, and they measure achievement in mathematics and writing.

The uniform test administered to fourth and eighth grade students uses equivalent tasks administered under the same conditions and scored equally. These paper-and-pencil tests are designed to better support higher order learning. For example, the mathematics test includes more open-ended questions and longer problems, as compared with those found in most standardized tests.

In addition, each fourth and eighth grade student keeps a portfolio of his or her work in writing and mathematics completed over the course of the school year. At several points during the year, teacher and student meet and discuss the work contained in the portfolio. Toward the end of the year, teacher and student select several mathematics "best pieces" and one in writing. Teachers then give an overall rating for the portfolio and discuss the rationale for the rating with students.

The State Department of Education provides assistance to local districts in development of these evaluative methods through consultants trained in local assessment development and administration. These consultants develop and offer training in concert with professional teaching associations, teaching colleges and universities and school districts on request.

During the 1990-91 school year, Vermont piloted this assessment system across 17 regions and 137 schools containing grades four or eight. These pilot sites were representative of urban and rural schools, as well as those with diverse grade configurations. Each school submitted a report of their assessment reform efforts to the State Department of Education. These were synthesized by the department and provided the basis for continuing reform activities. It was determined that reform initiatives should be conducted by local educators with support from the department.

Each of the 17 regions established under the pilot demonstration period contains a Network Leader in mathematics and writing responsible for brokering technical assistance and coordinating assessment reforms in every school containing grades four and/or eight in the region. These Network Leaders usually are master teachers. Primary reform activities involve inservice training of teachers. This training is sponsored by the department, facilitated by the Network Leader, and performed or facilitated by teachers. Elements of this training are determined at each site and may include problem-solving instructional strategies, uniform test scoring, portfolio management, components of the writing process and communication in mathematics.

The need for new forms and methods for assessing student achievement is especially important for middle grade students. Because of their distinct personal, social, and cognitive characteristics, new approaches to assessment can be especially beneficial in meeting the needs of these students. Their inward focus, sensitivity, vulnerability, and creativity pose special challenges for accurately assessing their knowledge and skills.
(Ramsay Selden, 1991)

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Provide Comprehensive Professional Development Opportunities to Support Higher Order Learning in the Middle Grades.

Teachers in middle grade schools should be selected and specially educated to teach young adolescents.
(Carnegie Council, 1989)

The successful middle grade school provides a balanced learning environment that is both "student-centered" and promotes higher order learning throughout the content areas. Success at teaching for higher order learning requires as much understanding of the affective realm of early adolescents as knowledge of cognitive science.

Effective at teaching of higher order thinking in the middle grades necessitates a change in curriculum content and a shift in instructional methods. Teachers must be knowledgeable about accelerated subject matter and instructional approaches proven to be most successful with early adolescents. They should be able to relate academic content to current events and to those matters that constitute daily concerns in the lives of 10- to 15- year-olds as Arthur Wise, president of the National Council for the Accreditation of Teacher Education, has observed.

States and school districts must insist that every child, particularly every at-risk child, be taught by a teacher who is prepared to teach him or her effectively.
(Wise, 1990)

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Successful teachers of early adolescents are knowledgeable about the social and cognitive development of adolescents. These teachers capture their students' attention and curiosity and help them concentrate and channel their energies into learning processes that stimulate higher order thinking. Accordingly, successful middle grade teachers help students learn how to learn. They use instructional strategies that elicit problem-solving and decision-making skills—particularly forming hypotheses, making observations and drawing conclusions.

University-based teacher education must restructure their programs to include special coursework and clinical experiences for middle grade teachers. The Center for Research on Elementary and Middle Schools conducted a national survey in 1988 and collected data from 2,400 principals of public schools that include grade seven. Its researchers found that the majority of middle grade teachers were trained and certified as either elementary or secondary teachers. The result: elementary trained teachers often lack depth of knowledge and experience in specific content areas, whereas secondary trained teachers lack education and instructional practices appropriate for early adolescent developmental characteristics (Epstein and MacIver, 1990). Still, relatively few teacher education programs currently provide specific coursework or offer degrees in middle level education.

One strategy to improve instruction in middle grade schools is to form partnerships among teacher education institutions, state and local education agencies and middle grade schools. This is exactly what is occurring in the state of Massachusetts.

Turning Points in Middle Grade Education in Massachusetts

In July 1990 the Massachusetts Department of Education was awarded a grant from the Carnegie Corporation of New York to improve middle grade education. Under this grant, the state identified objectives and created six partnerships between six middle grade schools and four colleges/universities to promote middle grade reform by following the recommendations in *Turning Points* (Carnegie Council, 1989) and to develop school-based middle grade certification programs. The partnerships include:

- Boston's Lewenberg Middle School and Lesley College
- Boston's Gavin Middle School and Lesley College
- Lowell's Barlett School and the University of Lowell
- Lynn's Eastern Junior High School and Salem State College
- Greenfield Middle School and the University of Massachusetts at Amherst
- Springfield's Chestnut Street Junior High School and the University of Massachusetts at Amherst

All six middle grade schools have high percentages of low-income students, and five have significant numbers of racial and ethnic minority and linguistic minority students. Of the colleges or universities only Lesley College had an existing middle grade certification program.

Each of the ten institutions formed a Restructuring Team that met monthly to facilitate the change process. The program is currently ongoing. Teams engage in schoolwide faculty presentations, study groups, coordination of schoolwide inservice training and schoolwide planning. The teams also meet together monthly as a Professional Development Team to direct the collaboration process. As a result, each partnership has engaged in extensive planning and staff development activities, including school and college visits, seminars and workshops.

The State Department of Education has provided extensive staff development and technical assistance to each partnership. A half-time, state middle-grades specialist helps at the schools and assists in team formation and development, identification of resources and guidance in the assessment and planning process.

These partnership schools have also participated in other department of education-sponsored training sessions. For example, Restructuring Teams attended three-day institutes, and staff teams from twenty-two schools participated in four days of training on the Coalition of Essential Schools model. Four of the partnership schools participated in this training. The schools also sent staff teams to a department-sponsored one-day institute on ability grouping and grade retention.

Teachers, administrators, and other school staff need to know the characteristics of the middle-level student and the instructional program and processes that are best for these students. . . . Middle level staff need to be up to date concerning the course content and curriculum outcomes for the middle level grades. All this information should be included in the pre-service training of middle level teachers and administrators or, for certified personnel now working with middle level students, provided through a systematic and comprehensive in-service staff development program. (New York State Board of Regents, 1989, pp. 8-9)

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Families and middle grade schools must be allied through trust and respect if young adolescents are to succeed in school.

(Carnegie Council, 1989)

Support the Communication of Middle Grade Student Higher Order Learning Goals to Families and the Community.

At Bret Harte, parents are required to:

• Attend an open house, back to school night, parent conferences, workshops, orientations, meetings, conferences and student related activities.

• Participate in drives, volunteer programs such as room and block parents, and classroom visitations.

• Become involved in the Shared Decisionmaking Council and the Organization of Elected Parents, Teachers, Students and Classified Representatives. These meetings are chaired by the school principal and union representative, and focus much of their attention on staff development, student discipline, schedule of activities and events, guidelines for use of school equipment and local budget matters including instructional materials, state text books, and related materials.

Many researchers have shown that parental involvement in schools affects the quality of education a child receives, as well as the quality of the school a child attends.

Most important, parental involvement in students' education directly affects their achievement and attitudes toward school. This influence is particularly important for middle grade students, because during early adolescence youngsters begin to form opinions about themselves and to make social and academic choices that will affect their future lives. Informed parents, knowledgeable about the structure and principles of middle grade education and the particular needs of early adolescents, can be formidable sources of support for quality middle grade education. Unfortunately, parental involvement often begins to wane in the middle grades. This is a juncture at which new structures for parental involvement need to be established.

Helping with homework and attending parent-teacher meetings is only a part of the role parents should play in being involved in their children's education. Among the most important contribution parents can make to their children's education is to promote a positive set of values toward learning. In *Making It in the Middle* (Lewis, 1991), Reginald Clark, who works with schools in the Los Angeles area to develop models of "family educators" for school districts, cites eight common parent-student interactions that boost learning:

- Initiating and encouraging intelligent discussions with the student on topics concerning schooling, education, careers, lifeskills, etiquette, rules and expectations;
- Storytelling, recounting experiences and sharing problem-solving strategies;
- Providing homework encouragement;
- Providing time, space and materials the student needs for homework, reading and/or hobbies;
- Listening to the student read and/or reading with the student;
- Playing games together;
- Introducing the student to other responsible mentors, enrichment programs, and experiences; and
- Modeling wholesome, literacy-oriented lifestyles and attitudes in the student's presence.

It is crucial that parents of early adolescents understand school goals for achievement in higher order thinking if they are to complement these goals with activities in the home. Higher order learning, particularly at the middle grade level, needs to be reinforced at home through study and social activities if the skills are to be retained. Schools must develop mechanisms for informing parents of ways to reinforce this form of learning and for communicating the needs of the home to the school. Special attention must be paid to parents and members of communities who traditionally have not actively participated in public education and to teachers and administrators who do not interact routinely with *all* parents. Parent education classes should be provided to increase parents' understanding. To ensure achievement in higher order thinking, middle grade students need strong academic support at school and from their families and communities. The school, students, parents and community must agree on the tenets, goals and necessity of achievement in higher order thinking and work collaboratively to achieve these goals.

Bret Harte Preparatory Intermediate: Promoting Family and Community Support in California

Bret Harte Preparatory Intermediate School, in South Central Los Angeles, is in a community with a low socioeconomic level. Student enrollment at Bret Hart is 1,147, and about 95 percent are eligible for free or reduced lunch. Fifty-five percent of the students are African-American, 44 percent are Latino. The remainder are of Asian, European, and Pacific Islander ancestries.

Sixth and seventh-grade students at Bret Harte are taught by their academic teachers during a six-period block schedule format. The eighth-grade house is organized into three

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teams. Academic core teachers at each grade level often engage in interdisciplinary team teaching, incorporating the use of manipulatives, and multi-media technologies as part of the instructional framework to motivate students to achieve at maximum levels.

Bret Harte is a restructured middle school wherein each grade level is a house and occupies its own wing or, in the case of the eighth graders, its own building. Each grade level has 10 teams of teachers. Each team shares about 32 students. The school's seventh period is designated for exploratory activities. It is the only time that students are integrated across grade levels; and they participate in a variety of activities, including creative and performing arts and an intramural sports program.

Bret Harte has an orientation program for parents of students in each grade level. This half-day meeting for parents and students is held in August on the Saturday before the opening of school, in consideration of parents who cannot leave their jobs. Parents and students meet and hear presentations from prospective teachers and are guided on a tour of the school. They receive a handbook and information on school expectations about discipline and behavior, homework, the dress code and parent involvement. Specifically, parents learn about curriculum content and instructional strategies, and they learn how they can reinforce what is learned in the classroom. Parents also learn what makes middle school different from the elementary grades and what students will be expected to learn in preparation for high school. Parents are encouraged to visit classes, assist with supervision and be visible on the school campus. In addition, parents learn about the school's Family Room which is staffed by two community representatives and is open to students during their lunch period and before and after school. Community representatives provide counsel and various types of support to students and maintain communication with the families.

By the end of the second week of school, students and parents are expected to have signed a parent/student/school contract stating they have read and discussed the rules, regulations, educational policy, student conduct and dress codes, discipline policy, homework policy and all other information in the school's handbook. The parent/student/school contract is countersigned by the student's primary teacher and submitted to the school's Dean of Students, who then distributes locker cards and combinations.

Bret Harte also encourages family and community membership in school councils or committees including the School and Chapter 1 Advisory Councils, Bilingual Advisory Committee and District Advisory Councils. Some of the councils' functions are as follows:

- Assist in developing the school-level plan.
- Assist in the budgeting process.
- Assist in the monitoring and evaluation process.
- Be a positive force at the school and community.

The major purpose of these councils is to build a relationship between the home and school so that parents and teachers may cooperate in the education of their students. This information was adopted with permission from the Bret Harte Preparatory, Intermediate School Handbook which was developed by a committee of parents, teachers, administrators and students.

Ensure Higher Order Learning Through Better Access to Health and Support Services.

Young adolescents must be healthy in order to learn .... Because of the direct link between the health of young adolescents and their success in school .... middle grade schools must accept a significant responsibility, and be provided sufficient resources, to ensure that needed health services are accessible to young adolescents and that schools become health-promoting environments.

(Carnegie Council, 1989, pp. 60-61)

Good health is often overlooked as a factor that contributes to educational success. Yet, a serious program to restructure learning, particularly among disadvantaged students, must also consider their economic condition, health and nutritional status. This is especially important for early adolescents who have reached a critical stage in their physiological, psychological and cognitive development. Inadequate health care and nutrition and unstable family situations serve as barriers to academic achievement.

Research indicates that there is a direct relationship between students' health and their ability to learn. Good vision, hearing and nutrition are essential to acquiring the motivation and stamina needed to learn. Home environment also is a contributing factor in school achievement. Child abuse or neglect and other adverse family situations affect student behavior and ability to learn.

Health and learning also are effected by lifestyle choices. Early adolescents are faced with decisions relating to healthy eating habits; regular physical exercise; sexual activity; and use of tobacco, alcohol or other drugs. Students are pressured by their peers, the media and adults to make lifestyle choices that ultimately affect their development and ability to learn. Therefore, both families and schools must assume responsibility for providing early adolescents with the information they need to make the best lifestyle decisions for themselves.

Middle grade schools must provide a healthy environment, promote healthy lifestyle choices and ensure that students receive needed health and social services.

Support Services for Disadvantaged Children, Youth and Families in Kentucky

In recent years, educators and health and social service providers across the United States have established coalitions and engaged in various joint activities to develop better service systems for disadvantaged students and their families. These families face an increasing number of problems (e.g., poor health, family disintegration, homelessness, substance abuse, unemployment and child abuse or neglect) that have over burdened our social service systems. Further complications arise as operating budgets continue to diminish. Most agree that America's current social service delivery systems cannot continue to operate in isolation if they are to effectively meet the changing needs of children, youth and families.

Many communities have increasingly supported interagency collaboration to increase access and improve services provided to disadvantaged children, youth and families. For example, the Kentucky Education Reform Act (KERA) of 1990 provided for the creation of a sixteen-member interagency task force to

develop a five-year plan for the establishment and implementation of Family Resource and Youth Services Centers "to meet the needs of economically disadvantaged children and their families." The Family Resource and Youth Services Centers are particularly designed for economically disadvantaged community members, but services provided at every center are available to any child, young person or family in the community. These centers are a part of a statewide system to develop and coordinate the resources of various agencies to address the individual needs of children, youth, families and schools.

The Family Resource and Youth Services Centers are envisioned as an effort to respond to the needs of the whole child or youth and their families. The guiding or operational principles of these centers include:

- All children can learn, and most can learn at high levels.
- Every child, youth and family is empowered to acquire the competencies necessary to accomplish educational achievement.
- An interagency focus must be developed so that many services are coordinated to maximize accessibility and responsiveness to the needs of children, young people and families.
- Community ownership is essential. Schools, school districts and communities are afforded flexibility to combine core program components with newly developed or optional components to produce a local program design that is most effective for the community served.

These principles provide a framework for each community to develop a system of services that best meets the needs of economically disadvantaged children, youth and families. Kentucky defines economically disadvantaged as a member of a family in which a child is eligible for free school meals. Local schools and communities then establish their own goals and objectives. Though these goals and objectives vary from community to community, tenets of exemplary community service centers have been identified and are recommended to Kentucky communities for consideration as they develop their own centers.

Family Resource Centers are designed to serve elementary students under age twelve and their families. The types of goals recommended for Family Resource Centers are as follows:

- Promote the healthy growth and development of children by assisting families to identify and address any home or community barriers to a child's success in school.
- Assist families to develop the parenting skills that can promote the full development of children.
- Ensure that families have access to appropriate community resources and receive from those resources the help that they need.
- Encourage social support linkages and networks among families, thereby reducing isolation and promoting family involvement in community activities.

Youth Services Centers are located in or near each school and serve eligible youth age twelve and older and their families. The types of goals recommended for Youth Services Centers are as follows:

- Promote young people's progress toward capable and productive adulthood by assisting them to recognize their individual and family strengths and to address problems that block their success in school.
- Assist young people to make effective use of community resources, including employment and training resources and health, mental health and social services resources, as necessary.
- Promote supportive peer-group relationships among young people and supportive relationships among young people, their families and persons in the community to develop positive self-esteem and competencies.

Kentucky communities eligible to compete for appropriated funds must contain a local public school or consortium of public schools in which 20 percent or more of the enrolled students in each school qualify for free school meals. The state estimates there are about 1,000 such schools. Appropriations for the Family Resource and Youth Services Centers are allocated on a competitive basis. Funding has been awarded to 150 of the eligible centers since July 1, 1991. One quarter of the remaining schools will continue to be awarded funds on a competitive basis enabling all eligible schools to be included by fiscal year 1995.

Paradoxically, those traits that characterize adolescent development and assist in the transition to adulthood including mutual dependence, valuing friendships, risk taking, and an openness to new experiences are the very traits that can place adolescents at risk of serious health problems.
(CCSSO, IN PRESS)

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CONCLUSION

Develop and provide an education of high expectations, high content, and high support so [all] youth enrolled in middle grade schools substantially improve their academic achievement.

(The High 5 Program, Jefferson County Public Schools, Louisville, Kentucky)

The principles that make up this statement are intended to provide education policymakers and practitioners with guidelines to improve teaching and learning for *all* students in the middle grades. Educators at all levels must be committed to ensuring that every student receives an education that is rich in content and instruction, and that stimulates higher order thinking.

We have provided evidence that the years of early adolescence are pivotal in determining students' education and employment outcomes. These years are characterized by great spurts of cognitive and physiological development, often affecting student behavior, motivation and ability to learn. Just as each student is physically unique, so too are his or her cognitive abilities. Every middle grade student does not enter grade six with equal literacies; therefore, schools must provide appropriate resources so that all early adolescents meet high standards and achievement outcomes by expected times.

For early adolescents this is best accomplished when the school provides a nurturing and supportive environment for learning. This learning environment is student centered and provides small "communities" for learning and developmentally appropriate curriculum and instructional methodologies.

States must recognize the middle grades as a unique unit of learning and ensure that middle grade educators be adequately prepared to teach and administer to early adolescents. State curriculum guidelines or requirements should include criteria for the middle grades and allow for flexible scheduling and co-curricular and exploratory courses.

States must encourage local school districts to develop assessment practices that are developmentally appropriate and that measure higher order learning. Recent developments in assessment practices are well suited for the immensely social nature of early adolescents.

States must ensure that *all* middle grade students receive the support and care needed from family, community and health and social service providers to achieve higher order thinking.

In sum, the states must develop and set specific goals for learning in the middle grades.

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